

A Comprehensive Review: Process Parameters Impact on Tensile Strength of 3D Printed PLA Parts

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Abstract: *The mechanical strength of the parts developed by 3D printing is an area of study because of the technology's inherent nature, which has led to its emergence as a disruptive technology for fabricating industrial components. The purpose of this study is to examine the effects of various 3D printing parameters on the tensile strength of PLA parts produced using 3D printing. Given their importance to commercial 3D printing, the parameters of nozzle temperature, bed temperature, printing speed, layer thickness, and printing direction have been studied in depth. Three-dimensionally printed specimens made from PLA, the most important material for FDM printing. A key objective of the research is to ascertain whether or not a 3D printing parameter can be used to optimize the investigated mechanical characteristic within a practical budget. Furthermore, trends that may be obvious and major factors in shaping the outcome will be investigated.*

Keywords: 3D Printing, Tensile Strength, Process Parameters, PLA

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